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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/533,765	Applicant(s) TAKASHIMA, TORU
	Examiner AMY HSU	Art Unit 2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 30 January 2009.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,15-31,33 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,15-31,33 and 34 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 1/30/2009 have been fully considered but they are not persuasive.

Regarding claim 1, applicant argues that the prior art cited in the previous rejection do not teach or suggest a feature of Claim 1 namely: "said slave apparatus comprising: a judging unit of transmitting to said master device a notification code of notifying a presently set-up communication mode,..". Applicant asserts that in applicant's exemplary embodiment, the communication mode is selected by the slave side, not by the master side, and this is not taught by the prior art.

However, upon close examination, claim 1 does not require the communication mode to be set by either the master or the slave device. The matter of setting the communication mode *initially*, and specifically which device sets the communication mode is not within the scope of the claims. The claim scope does include how the communication mode is set *after* communication is electrically released and subsequently restored, and this is addressed by the prior art as in the rejection below. However, which device sets the communication mode before the judging unit transmits the notification code to the master device is not stated in the claims. Claim 1 states that the slave apparatus comprises a judging unit of transmitting to the master device a notification code of notifying a **presently set-up** communication mode. The mode or settings that a device is "set" to, or "set-up" as does not indicate if the device itself adjusted the settings or whether another device controlled the settings. The claims also

to not include a unit or unit for the slave apparatus to set the communication mode, but only to transmit a presently set-up communication mode, which is taught clearly by Watanabe et al. (US 7432948). Col 2 Lines 19-23 teach "when the first mode is selected, the imaging apparatus is capable of transmitting a communication ID of the image apparatus ...to the host communication unit".

Further, setting of the communication mode initially, which is before the judging unit transmits the notification code to the master device is considered to be distinct from setting of the communication mode after the connection is released and then restored and set to a different communication mode because claim 1 uses the language, [after the connection is released and then restored the slave apparatus changes the communication mode] "into one different from that **used** immediately before said release". It does not indicate or suggest that the mode used before the release was set by slave device.

In addition, the slave apparatus "comprising" a communication controlling unit which selects the communication mode after the connection is released and then restored is not necessarily interpreted to mean the communication controlling unit is within the slave apparatus device. Thus which device sets the communication mode between the master and slave device is not clearly limited in the claims.

Therefore the Office maintains the previous rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1,15-31,33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (US 7432948) in view of Panian (US 6285890).

Regarding Claim 1, Watanabe teaches a slave apparatus (*Fig. 1 reference number 10 "camera"*) capable of communicating with a master device (*reference number 90, "host"*) through a predetermined communication bus (*Fig. 8 reference number 210, "USB"*) and having a plurality of communication modes of diverse kinds (*Col 9 Lines 21-27, first and second communication modes*), said slave apparatus comprising:

a judging unit of transmitting to said master device a notification code of notifying a presently set-up communication mode (*Col 4 Lines 46-47 corresponding to the second mode and Col 2 Line 19 teaching the first mode may be set*), and then judging whether a command in response to said notification code is received from said master device within a predetermined time (*Col 9 Lines 35-38*); and

a communication controlling unit of performing control on the basis of a judgment result of said judging unit in such a manner that when a command in response to said

notification code is received from said master device within the predetermined time, a state permitting communication with said master device is established in correspondence to the command (*Col 9 Lines 38-40 and Col 10 Lines 10-15 corresponding to executing of the first and second modes on command from the host.*)

Watanabe teaches up to the point where commands from the host are received and executed, but is silent on the procedure when a command is not received from the host within a predetermined amount of time. One of ordinary skill in the art recognizes that it is well known to go into a procedure during communication when one side, especially the host is idle for the purpose of either saving power, saving time, or even considering an error from the host side. Therefore one of ordinary skill in the art would look to prior art for well known procedures of handling no command being received from the host after connection is requested or established.

Panian similarly teaches automatic sensing of communication devices. In Columns 6-7 Table 2, Panian teaches different communication modes for the slave device which is the mobile communication device. In Fig. 4A, the slave apparatus scans for activity or command from the host to indicate the DTR's activity in 208. If there is activity, the apparatus will follow the flow to 206 to execute the command. However, if there is no command from DTR the flow will go to 210 in which case the DTR is inactive, meaning the DTR port as seen in Fig. 2A is electrically released or unconnected. Also at 210 the apparatus will scan for activity from RTS, which is a communication mode described in Table 2. If there is activity at this point the apparatus

will be connected for RTS port, and if not the flow goes to Fig. 4B to set other various different communication modes, which are different than initial mode.

The concept taught by Panian to wait and scan for activity from a connecting apparatus and to move on to other modes of communication in the lack of activity can be applied to Watanabe. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Watanabe with that of Panian to realize the procedure in the case where the host device is not giving any command after connection to end the connection and reconnect to a different communication mode. This would have been obvious because in the lack of activity from the master, the slave can realize a different option that can be more useful other than the mode with no response from the master.

Regarding Claim 15, Watanabe teaches a slave apparatus capable of communicating with a master device through a predetermined communication bus and having a plurality of communication modes of diverse kinds, said slave apparatus comprising: judging unit of transmitting to said master device a notification code of notifying a presently set-up communication mode (*as addressed with Claim 1*), and then judging whether a command received from said master device in response to said notification code corresponds to said presently set-up own communication mode; and communication controlling unit of performing control on the basis of a judgment result of said judging unit in such a manner that when said command corresponds to the

presently set-up communication mode, a state permitting communication with said master device is established in correspondence to the command (*Col 9 Line 29 through Col 10 Line 17 teaches the case where the master command corresponds with the set communication mode*). Watanabe teaches up to the point where commands from the host are received and executed, but is silent on when the command does not correspond to the set communication mode. The teaching of Panian as addressed with Claim 1 is also applied to Claim 15 because for example in Fig. 4A when the slave apparatus is at 208 and there is no activity sensed from the host that does not correspond with the slave which can potentially set the DTR communication mode. The disconnection at this point and reconnection with other communication mode is addressed with Claim 1. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Watanabe with that of Panian to realize the situation where the host is not giving the command of the communication mode that is currently set. This would have been obvious because this gives more control to the master, where the user can have more control over the slave device from the master.

Regarding Claim 16, Watanabe teaches a slave apparatus capable of communicating with a master device through a predetermined communication bus and having a plurality of communication modes of diverse kinds, said slave apparatus comprising: communication mode identifying unit of transmitting to said master device a notification code for notifying a presently set-up communication mode (*as addressed*

Art Unit: 2622

with Claim 1). Watanabe teaches the slave device sets the communication mode and the master device can operate in that set mode, which gives the slave device more control to limit the master device, but does not teach identifying the kind of communication mode from the master and changing to that mode then establishing communication. It is well known to have similar devices which give the master overriding control to set the communication mode and subsequently the slave device will execute in the master set mode.

Panian teaches allowing the master to select the communication mode based on which port is active, which corresponds to the selected mode. The slave device executes the commands of the master device accordingly as described in Figs. 4A and 4B.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Watanabe with that of Panian to give the master the priority of setting the mode over the slave, and to have the slave execute in the master set communication mode. This would be obvious to give more control to the master device.

Regarding Claim 17, Watanabe teaches the slave apparatus according to claims 1, 15 or 16, wherein said predetermined communication bus is a universal serial bus ("USB") type (*Fig. 8 reference number 210 "USB"*).

Regarding Claim 18, Watanabe teaches the slave apparatus according to claim 17, wherein said communication controlling unit performs said release by pulling up or pulling down a voltage applied to a D.sup.+ or a D.sup.- line of said USB (*Fig. 10 and Col 7 Lines 38-40*).

Regarding Claim 19, Watanabe teaches the slave apparatus according to claim 17, wherein said communication controlling unit performs said release by turning OFF a V_{bus} line through which a voltage from said host device is supplied in said USB (*Fig. 10 reference number 140*).

Regarding Claim 20, Watanabe teaches the slave apparatus according to claims 1, 15 or 16, wherein a plurality of said communication modes include at least two modes selected from a mode corresponding to an imaging class, a mode corresponding to a mass storage class, a mode corresponding to a customized class, and a mode corresponding to a streaming class (*Col 7 Lines 44-50*).

Regarding Claim 21, Watanabe teaches the slave apparatus according to claim 20, wherein said mode corresponding to a mass storage class among a plurality of said communication modes is set up as an initial state (*Col 7 Lines 45-50, the slave can be set in either mode, so the initial state could be mass storage class*).

Regarding Claim 22, Watanabe teaches the slave apparatus according to claim 17, wherein said USB embodied as a wire USB cable (*Fig. 8 reference number 210*).

Regarding Claim 23, Watanabe teaches the slave apparatus according to claim 17. Official notice is taken that it is well known for a USB connection to be embodied as a wireless circuit. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a USB embodied as a wireless circuit since Watanabe connects the host to other wireless devices.

Regarding Claim 24, Watanabe teaches the slave apparatus according to claims 1, 15 or 16, comprising displaying unit of displaying information on a communication state including information concerning a communication mode presently set up (*Col 4 Line 63 through Col 5 Line 2 teaches the display shows information from the various menus, and communication mode is one of the selected items from the slave side via the user interface which is the lcd*).

Regarding Claim 25, Watanabe teaches a digital camera comprising a slave apparatus according to claims 1, 15 or 16, and capable of transmitting recorded-by-

oneself data recorded by itself to said master device through said communication bus
(Col 9 Lines 30-40).

Regarding Claim 33, Watanabe teaches an information processing apparatus comprising a slave apparatus according to claims 1, 15 or 16, and capable of communicating with said master device (*Fig. 9 reference number 24*).

Claims 26-28 are method claims corresponding to the apparatus of Claims 1, 15, and 16, and Claims 29-31 are computer programs corresponding to the apparatus of claims 1, 15-16 and are rejected similarly.

Regarding Claim 34, Watanabe teaches a digital camera (*reference number 10*) capable of communicating with a master device through a predetermined communication bus and having a plurality of communication mode of diverse kinds (*including at least wireless or USB connection*), said digital camera comprising:

a communication control section of controlling a communication with said master device (*the digital camera contains a wireless communication mode selection switch, reference number 424 to select wireless communication mode as opposed to USB connection*), wherein

said communication control section performs said control in such a manner that said communication control section transmits to said master device a notification code of notifying a presently set-up own communication mode (*Column 9 Line 29 through Column 10 Line 18 teaches different modes that are dependent on which mode is intended by the digital camera side including different cases for if the digital camera select wireless communication with another device through the host device, thus the digital camera communicates to the host the camera's intended communication type*), and then

when a command in response to said notification code is received from said master device within the predetermined time, a state permitting communication with said master device is established in correspondence to the command (*Col 9 Lines 30-41*), and

Watanabe teaches up to the point where commands from the host are received and executed, but is silent on the procedure when a command is not received from the host within a predetermined amount of time. One of ordinary skill in the art recognizes that it is well known to go into a procedure during communication when one side, especially the host is idle for the purpose of either saving power, saving time, or even considering an error from the host side. Therefore one of ordinary skill in the art would look to prior art for well known procedures of handling no command being received from the host after connection is requested or established.

Panian similarly teaches automatic sensing of communication devices. In Columns 6-7 Table 2, Panian teaches different communication modes for the slave device which is the mobile communication device. In Fig. 4A, the slave apparatus scans for activity or command from the host to indicate the DTR's activity in 208. If there is activity, the apparatus will follow the flow to 206 to execute the command. However, if there is no command from DTR the flow will go to 210 in which case the DTR is inactive, meaning the DTR port as seen in Fig. 2A is electrically released or unconnected. Also at 210 the apparatus will scan for activity from RTS, which is a communication mode described in Table 2. If there is activity at this point the apparatus will be connected for RTS port, and if not the flow goes to Fig. 4B to set other various different communication modes, which are different than initial mode.

The concept taught by Panian to wait and scan for activity from a connecting apparatus and to move on to other modes of communication in the lack of activity can be applied to Watanabe. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Watanabe with that of Panian to realize the procedure in the case where the host device is not giving any command after connection to end the connection and reconnect to a different communication mode. This would have been obvious because in the lack of activity from the master, the slave can realize a different option that can be more useful other than the mode with no response from the master.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMY HSU whose telephone number is (571)270-3012. The examiner can normally be reached on M-F 8am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on 571-272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2622

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amy Hsu
Examiner
Art Unit 2622

/NHAN T TRAN/
Primary Examiner, Art Unit 2622